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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,244	07/10/2001	Mikko Sievanen	19380.0006	7004
7590 01/27/2006				
Swidler Berlin Shereff Friedman Suite 300 3000 K Street NW Washington, DC 20007-5116		EXAMINER PIERCE, WILLIAM M		
		ART UNIT PAPER NUMBER		
		3711		

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/868,244		SIEVANEN	
	<b>Examiner</b>		<b>Art Unit</b>	
	William M. Pierce		3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/5/05.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-22 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 12-22 and 24-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

WILLIAM M. PIERCE  
 Patent Examiner

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 3711

**DETAILED ACTION**

Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification fails to discuss where a construction element can be connected to another construction element.

***Claim Rejections - 35 USC § 102***

Claims 12-17, 19-22 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorges in view of Materials Science and Engineering.

As to claims 19,-22, 24-26 and 28, shown is a panel used for floors (col. 1, ln. 11) which are known to be supported by joists, as such is considered to show a substructure comprising beams. Further shown is a cellular board 14, an impact stress inducing layer 15 and an "impact-resistant" laminate layer 20. To the extent that "impact stress inducing" and "impact-resistant" are relative terms such that everything can be described as possessing such traits relative to another material depending upon the materials and the applications, these limitations are considered met. As shown in fig. 4, the elements of Gorges are connected together. Lastly, with respect to the recitation of a bowling lane, any floor is considered to meet this recitation of intended use. Most broadly, plastic toy pins and a ball used by a child on a floor render such a "bowling lane". As to claims 12 and 13, 14 of Gorges is considered to be "board-like". Aluminum as called for by claim 14 and foam as called for by claims 15 and 16 is shown at col. 6, ln. 27 and reference number 21 respectively. Materials Science teaches that structural panels such as Gorges are known to be constructed and wood as more specifically called for by claim 17. Furthermore, the selection of a known material to take advantage of its known properties for an intended purpose has been held obvious. To have used to have used wood in place of the panels of Gorges would have been obvious to have eliminated the fire resistance of the panel and to have added the known properties of wood to his panel.

As to claim 27, Gorges show the layer of the panels to have different thicknesses in different sections (col. 8, lns. 8-44).

As to claim 29, Gorges at ln. 7 of the abstract and fig. 17.16 of Material Science show the use of adhesive in composite panels. Such is clearly not new. Further Gorges shows that his panels are configured to be connected together to form for example a floor. As to the thickness and density of the board layer, the range is considered to be

Art Unit: 3711

an obvious matter of design choice. "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969). Applicant has offered no evidence of the criticality of the claimed ranges where they solve any particular problem or produce any unexpected results. The use of the proper combination of materials in composite panels in order to achieve the desired properties is well recognized. Note col. 6, ln. 7 of Gorges where "the particular materials from which the overall composite laminar panel 10 are made may vary to some extent dependent upon the environment within which the panel is to be employed". The claimed thickness and density would have been obvious as the selection of materials for an intended use.

Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gorgest in view of Materials Science and Engineering and further in view of Kelly 4,337,290. Gorges does not mention fibrous material and resin the use of paper for his layers. Kelly teaches that it would have been obvious to have used a paper impregnated with resin as a known board like material for use in creating laminates like that shown by Gorges.

#### ***Claim Rejections - 35 USC § 103***

Claims 17-22 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunst in view of Kelly 4,337,290.

As to claims 17-22 and 26-29, Brunst shows a substructure of beams in fig. 1 construction elements having a cellular board 21 where all wood material is considered to be a "cellular material" to meet the limitations of the claim. Further shown is a board layer 31 and 32. It is unclear whether or not Brunst shows a protective layer from his (col. 6, lns. 50-59). In any event, Kelly teaches that protective layers attached to a substrate are known. To have added the protective layer of Kelly to Brunst would have been obvious in order to make the panel more durable.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunst in view of Kelly 4,337,290 and further in view of Stirling Re. 35,778 and Materials Science and Engineering and Turner 5,106,668.

Brunst does not mention cells having a hexagonal cross-section. Sterling teaches in bowling lanes that "sandwich-type" structures are known in to be tried in bowling. From the bottom of pg. 541 of Materials Science one can see that "honeycomb" structure is a well known to "sandwich panels". To have replaced the panels of Brunst with the honeycomb panels of Materials Science would have been an obvious matter of replacing one known sandwich type panel for that of another in order to take advantage of its known properties of strength, lightness, rigidity and

Art Unit: 3711

stability. Turner teaches that it is known to design honeycomb panels such that they are resistant to impact loads (col 1, Ins. 20-43).

As to claim 29, Brunst shows the use of adhesive (col. 5, ln. 38). Such is clearly not new. Further Brunst shows that his panels are configured to be connected together to form a bowling alley. As to the thickness and density of the board layer, the range is considered to be an obvious matter of design choice. "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969). Applicant has offered no evidence of the criticality of the claimed ranges where they solve any particular problem or produce any unexpected results. The use of the proper combination of materials in composite panels in order to achieve the desired properties is well recognized. The claimed thickness and density would have been obvious as the selection of materials for an intended use.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunst in view of Kelly 4,337,290 and further in view of Stirling Re. 35,778 and Materials Science and Engineering and further in view of Gorges.

To have replaced the panel of Brunst with one constructed of honeycomb would have been obvious for the reasons set forth above. To have filled these cells of the honeycomb panel with a polyurethane foam would have been obvious as taught by Gorges at his 21 in order to insulate the panel.

#### ***Response to Arguments***

Applicant's arguments filed 11/4/05 have been fully considered but they are not persuasive.

Gorges discloses a structural panel to be put to use in any environment (abstract, ln. 19), particularly useful as a flooring structure. The recitation of a bowling lane in the preamble and a bowling lane surface (cl. 26, ln.7) are considered functional only pertaining to the intended use of the apparatus. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). There exist no know standard in the prior art for the structure that would be required for a "bowling lane". A game of bowling can take place on most any type of flat surface. In line with applicant's interpretation of "laminate, layer 20 of Gorges is a "superposed layer of one or more materials" as shown in Fig. 1.

With respect to the limitation "impact resistant", this has no definite boundaries set forth in the claim and it is given its most broad interpretation. As such it is submitted that all materials are to some degree "impact resistant". Further, as set forth above, most any surface can be used as a bowling lane surface. A surface even made of balsa

Art Unit: 3711

wood would be suitable for a bowling lane using lighter balls such as hollow plastic balls using in toy bowling games. For the reasons advanced above the recitation of a "bowling lane surface" in claim 28 does not distinguish it from Gorges.

Applicant's arguments with respect to "bowling alleys" in contrast to miniature bowling alleys is not persuasive since the limitations in his claims do not differentiate to what type of bowling lane they are drawn. The claims merely recited a "sectional bowling lane". The claims do not distinguish a lane that might be found in a bowling center from a game that may be found on a table top in a persons home.

As set forth above, most everything can to some degree be considered to be impact resistant. As to claim 17, wood is considered old as set forth in the grounds for rejection above as being taught by Materials Science.

Applicants arguments with respect to the combination of Gorges and Kelley only restates his previous position set forth with respect to Gorges above. The examiners position has been made of record and no further comment is deemed necessary. With respect to claim 18, applicant argues that "any surface that a bowling ball is rolled on is not a bowling lane". However, the examiner is entitled to give the limitations of the claims their broadest interpretation and it is submitted that any surface that a ball could be rolled is can be considered a bowling lane. If a prior art structure is capable of performing the intended use as recited in the preamble, then it meets the claim. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997).

As to Brunst, he clearly shows a sectional bowling lane in his panels 45 as shown in fig. 3 and at least one supporting structural layer 21 of cellular board (wood strips, col. 5, ln. 9) with wood being inherently a cellular material having cells. The cells 21 of Brunst as shown in fig. 2 have a longitudinal axis that can be established to extend perpendicular to the cellular board layer as called for by the claims.

Brunst and Kelly are considered to show a "board layer". Kelly specifically teaches the use of "multilayer paper" (col. 3, ln. 35).

To the rejection including Turner, applicant assumes that the examiner suggest replacing the "plant cell" core of Brunst with honeycomb cells. While that is considered taught by the applied art, the examiners rejection is more encompassing by suggesting that replacing the entire panel of Brunst with a honeycomb panel designed for that intended purpose taught by Materials Science would have been obvious. Turner is used to teach that honeycomb panels are known to resist impact load and would be a suitable material replacement for the panels of Brunst.

Applicant's claims do not set forth a bowling alley element. More broadly, they recite a "construction element". Honeycomb panels are known for their high strength to weight applications, especially in the aerospace industry. One skilled in the art faced with the problem of weight with the panels of Brunst would surely consider the

Art Unit: 3711

design of a honeycomb panel as taught by Material Science. In contrast to a "new way of thinking", honeycomb type panels have traditionally be costly and as a result not suitable for many applications. Improved techniques and availability have made such panels more reasonable for many applications outside the aerospace industry to now consider.

**Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication and its merits should be directed to William Pierce at E-mail address [bill.pierce@USPTO.gov](mailto:bill.pierce@USPTO.gov) or at telephone number (571) 272-4414.

For **official fax** communications to be officially entered in the application the fax number is (703) 872-9306.

For **informal fax** communications the fax number is (703) 308-7769.

Any inquiry of a general nature or relating to the **status** of this application or proceeding can also be directed to the receptionist whose telephone number is (703) 308-1148.

Any inquiry concerning the **drawings** should be directed to the Drafting Division whose telephone number is (703) 305-8335.

  
WILLIAM M. PIERCE  
PRIMARY EXAMINER